

REMARKS / DISCUSSION OF ISSUES

Applicant has carefully reviewed and considered the Office Action mailed on October 7, 2008, and the references cited therewith.

Claims 1, 4, 12, 18 and 23 are amended. Claim 3 is canceled. With no claims being added, claims 1, 2, 4-23 are now pending in this application.

35 USC§101 Rejection of the Claims

The non final office action rejects claims 1-11 and 18-23 under 35 USC §101.

Claims 1 and 18 are amended to traverse this rejection. Support for the amendment can be found in page 8, lines 31-34. Accordingly, applicant respectfully requests that the 35 USC §101 rejection of claims 1 and 18 be withdrawn. Claims 2, 4-11 and 19-23 are also patentable at least because they each depend directly or indirectly from a respective one of independent claims 1 and 18, all of which are patentable as explained above.

35 USC§102 Rejection of the Claims

The non final office action rejects claims 1-2, 7-14 and 16-22 under 35 USC §102(b) over Trimberger (U.S 5,752,035).

Applicant respectfully traverses this rejection. As explained below, independent claims 1, 12, and 18 are patentable under 35 USC §102(b) over the cited reference.

Trimberger, in col. 3, lines 14-30, describes “providing a reprogrammable instruction set accelerator (RISA)”, “The RISA provides the capability for users to program instructions that may be difficult to do in the general purpose processor”, and “the reprogrammable instruction set accelerator can be reprogrammed with

different instructions at different times saving space and cost in the computer". Further, Trimberger, in col. 14, lines 65-67, describes "The execution profile generated by block 505 identifies commonly used sequences of fixed instructions or combinations of fixed and RISA instructions". Furthermore, Trimberger, in col. 15, lines 15-18, describes "techniques for deciding which instructions to configure into the RISA are provided". Also, Trimberger, in col. 15, lines 39-44, describes "profiling can be used to find the RISA instructions which are used least often. These least used RISA instructions are converted back into fixed instructions or to a combination of fixed instructions and simpler RISA instructions until the used RISA instructions fit within the available configurable resources".

In contrast, amended independent claims 1, 12, and 18 recite "". Further amended independent claims 1, 12, and 18 recite detecting a repeated sub-sequence in said sequence of instructions and **providing an index information** indicating the repetition frequency of said repeated sub-sequence, **wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated sub-sequence compared to the repetition rate of other detected repeated sub-sequences**. Support for the amendment and language can be found in canceled claim 3 and page 3, lines 15-21, page 6, lines 5-17, and page 8, lines 17-22. This type of **providing an index information** indicating the repetition frequency of said repeated sub-sequence, **wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated sub-sequence compared to the repetition rate of other detected repeated sub-sequences** is not disclosed in Trimberger. Therefore, amended independent claims 1, 12, and 18 should be found allowable, and such action is respectfully requested.

Claims 2, 7-11, 13, 14, 16, 17, and 19-22 are also patentable at least because they each depend directly or indirectly from a respective one of independent claims 1, 12, and 18, all of which are patentable as explained above.

For at least the above reasons, applicant respectfully requests that the 35 USC §102(b) rejection of claims 1-2, 7-14, and 16-22 be withdrawn.

35 USC§103 Rejection of the Claims

The non final office action rejects claims 3-6 and 23 under 35 USC §103(a) over U.S 5,752,035 (Trimberger).

Applicant respectfully traverses this rejection. As explained below, claims 4-6 and 23 are patentable under 35 USC §103(a) over Trimberger.

Trimberger, in col. 3, lines 14-30, describes “providing a reprogrammable instruction set accelerator (RISA)”, “The RISA provides the capability for users to program instructions that may be difficult to do in the general purpose processor”, and “the reprogrammable instruction set accelerator can be reprogrammed with different instructions at different times saving space and cost in the computer”. Further, Trimberger, in col. 14, lines 65-67, describes “The execution profile generated by block 505 identifies commonly used sequences of fixed instructions or combinations of fixed and RISA instructions”. Furthermore, Trimberger, in col. 15, lines 15-18, describes “techniques for deciding which instructions to configure into the RISA are provided”. Also, Trimberger, in col. 15, lines 39-44, describes “profiling can be used to find the RISA instructions which are used least often. These least used RISA instructions are converted back into fixed instructions or to a combination of fixed instructions and simpler RISA instructions until the used RISA instructions fit within the available configurable resources”.

In contrast, amended independent claims 1 and 18 recite detecting a repeated sub-sequence in said sequence of instructions and **providing an index information** indicating the repetition frequency of said repeated sub-sequence, **wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated sub-sequence compared to the repetition rate of other detected repeated sub-sequences**. Support for the amendment and language can be found in canceled claim 3 and page 3, lines 15-21, page 6, lines 5-17, and page 8, lines 17-22.

Claim 3 is canceled; claims 4-6 and claim 23 are also patentable at least because they each depend directly or indirectly from a respective one of amended

independent claims 1 and 18, all of which are patentable as explained above.

Applicant respectfully asserts that Trimberger reference fails to support a *prima facie* case of obviousness because, the cited reference fails to teach or suggest all of the elements of the Applicant's invention, such as detecting a repeated sub-sequence in said sequence of instructions and **providing an index information** indicating the repetition frequency of said repeated sub-sequence, **wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated sub-sequence compared to the repetition rate of other detected repeated sub-sequences.**

For at least the above reasons, applicant respectfully requests that the 35 USC §103(a) rejection of claims 4-6 and 23 be withdrawn.

As described above, if the Examiner is using personal knowledge or is taking Official Notice of the elements of claims 4-6 which are not found in Trimberger patent, Applicant respectfully traverses and requests that the Examiner either provide a reference of references which describe such missing elements pursuant to M.P.E.P. § 2144, or submit an affidavit as required by 37 C.F.R. § 1.104(d) (2).

The non final office action rejects claim 15 under 35 USC §103(a) over U.S 5,752,035 (Trimberger) in view of official notice.

Applicant respectfully traverses this rejection. As explained below, claim 15 is patentable under 35 USC §103(a) over the cited Trimberger in view of official notice.

Trimberger, in col. 3, lines 14-30, describes "providing a reprogrammable instruction set accelerator (RISA)", "The RISA provides the capability for users to program instructions that may be difficult to do in the general purpose processor", and "the reprogrammable instruction set accelerator can be reprogrammed with different instructions at different times saving space and cost in the computer". Further, Trimberger, in col. 14, lines 65-67, describes "The execution profile generated by block 505 identifies commonly used sequences of fixed instructions or combinations of fixed and RISA instructions". Furthermore, Trimberger, in col. 15, lines 15-18, describes "techniques for deciding which instructions to configure into

the RISA are provided". Also, Trimberger, in col. 15, lines 39-44, describes "profiling can be used to find the RISA instructions which are used least often. These least used RISA instructions are converted back into fixed instructions or to a combination of fixed instructions and simpler RISA instructions until the used RISA instructions fit within the available configurable resources".

In contrast, amended independent claim 12 recites detecting a repeated sub-sequence in said sequence of instructions, **providing an index information** indicating the repetition frequency of said repeated sub-sequence, **wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated sub-sequence compared to the repetition rate of other detected repeated sub-sequences**, and allocation between a processing resource and said repeated sub-sequence based on said index information. Support for the amendment and language can be found in canceled claim 3 and page 3, lines 15-21, page 6, lines 5-17, and page 8, lines 17-22.

Claim 15 is also patentable at least because it depends directly or indirectly from amended independent claim 12 which is patentable as explained above.

Applicant respectfully asserts that Trimberger reference fails to support a *prima facie* case of obviousness because, the cited reference fails to teach or suggest all of the elements of the Applicant's invention, such as detecting a repeated sub-sequence in said sequence of instructions, **providing an index information** indicating the repetition frequency of said repeated sub-sequence, **wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated sub-sequence compared to the repetition rate of other detected repeated sub-sequences**, and allocation between a processing resource and said repeated sub-sequence based on said index information.

For at least the above reasons, applicant respectfully requests that the 35 USC §103(a) rejection of claim 15 be withdrawn.

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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